

## Laidlaw, Tina

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**From:** Suplee, Mike <msuplee@mt.gov>  
**Sent:** Wednesday, November 13, 2013 10:22 AM  
**To:** McInnis, Amanda [Amanda.McInnis@hdrinc.com] (Amanda.McInnis@hdrinc.com)  
**Cc:** Laidlaw, Tina  
**Subject:** Yellowstone criteria; period of application

Hi Amanda;

I looked into the possibility of changing the Yellowstone River period to October 15<sup>th</sup> rather than October 30<sup>th</sup>. My review leads me to conclude that the date should remain at October 30<sup>th</sup>. October 30<sup>th</sup> was based on the point in time during the fall when the water temperature of larger Montana rivers (including the Yellowstone) drops to 5 degrees C, which is about the point where *Cladophora* growth comes to a halt. Please see Figure 3-1 on page 3-2 of our 2013 Yellowstone technical modeling report at:

<http://deq.mt.gov/wqinfo/standards/NumericNutrientCriteria.mcp>

An additional consideration is the fact that our climate appears to be getting warmer later into the fall and past data are not necessarily a good reflection of the present or near future. For example, looking over the past 40 years of flow data (since 1968) in the Yellowstone River, the lowest 10 flows all occurred in the past 10 years or so with two exceptions (1988 and 1994; see Table 12-5 of the above report). Given this nonstationarity and general trend, I believe the *Cladophora* season will if anything extend later into the fall.

For these reasons, I believe the end date for the Yellowstone River nutrient criteria should remain at October 30<sup>th</sup>.

Thanks,

Mike Suplee  
MT DEQ

P.S. we are actively working to integrate many of your other comments into the rule and guidance package.